

ABSTRACT OF THE DISCLOSURE

A projection exposure apparatus includes a projection optical system for projecting a transfer pattern of a first object onto a second object, a  
5 first illumination system for performing illumination under a first illumination condition, wherein the transfer pattern of the first object illuminated under the first illumination condition is projected onto the second object through the projection optical system, a  
10 second illumination system for performing illumination under a second illumination condition, a light intensity detector, and an information processing system operable, as a particular pattern being illuminated by the second illumination system under  
15 the second illumination condition is imaged by the projection optical system, to measure a wavefront aberration of the projection optical system on the basis of detection of a light intensity distribution of an image of the particular pattern made through the  
20 light intensity detector.